

Appl. No. 10/812,819
Amdt. Dated Feb. 17, 2005
Reply to Office Action Mailed November 17, 2004

Amendments to the Claims:

This listing of claims will replace all prior versions and listings of claims in the application:

Listing of Claims:

Claim 1 (currently amended): A mold production scheduling system for scheduling mold parts to be produced, the mold production scheduling system comprising:

a basic data maintaining module for adding, modifying, inquiring of and deleting basic data, the basic data including machine resource data, mold data and mold part data; and

a simulation analysis module for dynamically analyzing supply and demand, and generating scheduling results according to basic data provided by the basic data maintaining module[[]], the simulation analysis module comprising:

a production scheduling sub-module for scheduling start times and finish times for mold parts to be produced;

a part order scheduling sub-module for generating mold part order scheduling charts; and

a Gunter analysis graph generating sub-module for transforming the mold part order scheduling charts into Gunter analysis graphs, which illustrate a distribution of each part order in corresponding machines.

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Claim 2 (original): The mold production scheduling system according to claim 1, wherein the basic data maintaining module comprises:

a machine resource maintaining sub-module for maintaining basic data on available machine resources according to codes, names, quantities and service times of available machines;

a resource setting maintaining sub-module for setting a status of any machine as occupied, and for setting a time period during which the machine will remain occupied;

a mold data maintaining sub-module for adding, modifying and deleting mold data, and for generating mold parts bills; and

a part order maintaining sub-module for adding, modifying and deleting part order data.

Claim 3 (original): The mold production scheduling system according to claim 2, wherein the machine resource maintaining sub-module is also for setting users and use times according to the codes, names, quantities and service times of available machines.

Claim 4 (original): The mold production scheduling system according to claim 2, wherein the basic data comprise a bill of material, a delivery date and a production order on each part of a mold, and man-hours of relevant workshop sections.

Claim 5 (original): The mold production scheduling system according to claim 2, wherein the part order data for each part comprise a serial number, a delivery date, one or more workshop sections, scheduled man-hours, and a production status of each relevant workshop section.

Claim 6 (canceled)

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Claim 7 (currently amended): The mold production scheduling system according to claim 1, wherein the production scheduling sub-module is also for calculating loads of machines and determining key machines.

Claim 8 (original): A mold production scheduling method for scheduling mold parts to be produced, the method comprising the steps of:

generating a mold part bill according to a client's demand and a mold bill of material;

calculating a planned finish date of each mold part;

calculating a load of each of machines, and determining key machines;

determining key mold parts and key production orders;

scheduling key production orders for key machines;

determining whether any ordinary production order is ahead of any key production order;

if any ordinary production order is ahead of a key production order, scheduling the ordinary production order applying a pull rule;

if no ordinary production order is ahead of any production key order, scheduling each ordinary production order applying a push rule;

generating a production order scheduling result; and

describing the production order scheduling result by way of a Gunter analysis graph, in order to display occupation times of each mold part on corresponding machines.

Claim 9 (original): The mold production scheduling method according to claim 8, wherein the step of determining key machines comprises defining a machine with a large load as a key machine.

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Claim 10 (original): The mold production scheduling method according to claim 8, wherein the step of determining key production orders comprises defining production orders processed on key machines as key production orders.

Claim 11 (original): The mold production scheduling method according to claim 8, wherein the step of determining key mold parts comprises defining mold parts with key production orders as key mold parts.

Claim 12 (original): The mold production scheduling method according to claim 8, wherein the step of scheduling key production orders for key machines comprises applying a limited capacity project method, in which a quantity, capacity and efficiency of each kind of machine, and a capacity and work time of corresponding workers are all taken into account.

Claim 13 (original): The mold production scheduling method according to claim 8, wherein the step of scheduling the ordinary production order applying a pull rule comprises reversing any scheduling of the ordinary production orders ahead of the key production order.

Claim 14 (original): The mold production scheduling method according to claim 8, wherein the step of scheduling each ordinary production order applying a push rule comprises scheduling each ordinary production order behind the corresponding one or more key production orders.

Claim 15 (currently amended): A process of ~~making a~~ mold production scheduling, comprising the steps of:

setting [[a]] resource supply basic data;

inputting [[a]] basic mold data;

analyzing supply and demand;

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generating a part order scheduling chart;

displaying a ~~gunter~~ Gunter graph; and

instructing production, including setting machine occupation and returning to the step of analyzing supply and demand, and updating finished parts and production orders and returning to the step of inputting basic mold data.